DEPARTMENT OF DEFENSE BLOGGERS ROUNDTABLE WITH READ ADMIRAL DAVE TITLEY, OCEANOGRAPHER OF THE NAVY, DIRECTOR OF THE NAVY'S TASK FORCE CLIMATE CHANGE VIA VIDEOCONFERENCE SUBJECT: CLIMATE CHANGE INVESTMENTS IN A FISCALLY RESTRAINED ENVIRONMENT TIME: 12:05 P.M. EDT DATE: FRIDAY, JUNE 18, 2010

\_\_\_\_\_\_

Copyright (c) 2010 by Federal News Service, Inc., Ste. 500 1000 Vermont Avenue, NW, Washington, DC 20005, USA. Federal News Service is a private firm not affiliated with the federal government. No portion of this transcript may be copied, sold or retransmitted without the written authority of Federal News Service, Inc. Copyright is not claimed as to any part of the original work prepared by a United States government officer or employee as a part of that person's official duties. For information on subscribing to the FNS Internet Service, please visit http://www.fednews.com or call(202)347-1400

\_\_\_\_\_\_

(Note: Please refer to www.dod.mil for more information.)

JOHN OHAB (Office of the Secretary of Defense for Public Affairs: Hello, everyone. I'd like to welcome you to the Department of Defense Bloggers Roundtable for Friday, June 18th, 2010.

ADM. TITLEY: This is -- this is Admiral Titley. May I help you?

MR. OHAB: Hello, Admiral. We're just getting started here today.

ADM. TITLEY: Okay. Great.

MR. OHAB: Give me just one moment. I'll introduce -- ADM. TITLEY: Yeah, sure.

MR. OHAB: -- today's program, and then I'll send it off to you.

ADM. TITLEY: Okay. Yeah, we're going to try this. Unfortunately, they are -- they -- the vice president is doing flight operations right outside my window here. So hopefully that won't disrupt the sound of the phone call too much.

MR. OHAB: It will just make it more fun.

ADM. TITLEY: It sounds like we're on a ship.

MR. OHAB: Well, everyone, my name is Dr. John Ohab with the Office of the Secretary of -- Office of the Assistant Secretary of Defense for Public Affairs. I have the privilege of moderating today's phone call. Just a quick note to our bloggers on the line before we get started: Please remember to clearly state your name and the blog or organization in advance of your questions. And respect our guest's time by keeping your questions succinct and to the point. Also, after you've

asked a question, if you could please place your phone on mute, that would ensure that we can all hear our guest speaker.

Today our guest is U.S. Navy Rear Admiral Dave Titley, oceanographer of the Navy and director of the Navy's Task Force Climate Change. During the roundtable, Rear Admiral Titley will discuss whether the Navy should be making investments related to climate change in a fiscally constrained environment.

And from there what are the important interests to United States national security that the -- our Navy may be called upon to help to shape and respond?

I'll just leave it at that for right now so that we can really use as much time as possible for the questions that you might have out there.

MR. OHAB: Thank you, Admiral. I'd like to give the first question to Tom Goering.

Q Yes, sir. Thank you, Admiral, for your time.

My name is Tom Goering, I'm with Navycs.com, Navy cyberspace. My question is, what are the main resources of scientific data that we are using to make our assumptions? And secondly, is there an effort to consolidate that data for public use, maybe a web page or website that has that data available for everybody? Over.

ADM. TITLEY: Okay, Tom, thanks very much for the question. As you can imagine, in the Navy I have neither the resources nor, frankly, the desire to reinvent wheels. So we are using heavily some of the best science that the climatologists, oceanographers, glaciologists and meteorologists in the United States have produced.

I could refer you to two websites in particular where, if you are looking for some of the basic underlying scientific information, that it -- that you could find it today. If you Google NOAA, N-O-A-A, Climate Services, you'll find, I think, a website that Dr. Jane Lubchenco and her team have put together that is frankly very good and has a lot of this information.

Another place to look within the U.S. is the U.S. Global Climate Change Research Program. And again, you can - you can Google that, and I think that has some information.

Just one other comment that I would have here is, along with our sister task force — that is, Task Force Energy — the Navy is looking to launch a website for both Task Force Energy and Task Force Climate Change in August. We're just going through some of the final administrative checks in the block, if you will, but we are very excited about launching that. And I — and that will, again, provide links to some of these sites that I just mentioned, but also really kind of focus the information in what will hopefully be an easy one———stop manner to

access for anybody interested in how the United States Navy is looking at this.

- MR. OHAB: The next question is for Beth Wilson.
- Q Thank you, I'm going to pass.
- MR. OHAB: All right. We'll go to Dale Kissinger.
- Q Good afternoon, Admiral. This is Dale Kissinger from MilitaryAvenue.com.

I've actually flown an airplane into Diego Garcia quite a few times, and there's not much room there for the runway to go underwater, so obviously it is a concern.

My question is how much the Navy is putting into dollars for this program. That usually indicates the amount of interest and emphasis, and I wondered if you have a budget for looking at change, and what it is.

ADM. TITLEY: Okay, Dale, thanks very much for the question. Really, right now, what we are doing -- and I'll -- I'm trying to stay away from sort of the bureaucrat-ese and DOD-ese speech as much as I can this afternoon -- but the first part of this, to really define kind of the scope of how much, you know, I would say real money -- and by real money would be, you know, millions and even billions would be required -- is for our task force, Task Force Climate Change, to do something called a capabilities-based assessment, or a CBA.

And this is really the foundational study to start scoping out what types of changes to force structure, to infrastructure, to such things as command and control and communications that might be required.

So we are doing one of these capabilities-based assessments, both for climate change in general and another one really focused specifically on the -- on the Arctic. We have timed these capabilities-based assessments to be -- to be able to influence the Navy's program objective memoranda starting in fiscal year '14. So that's where I really see that the significant money will potentially -- potentially -- start flowing.

And as I'm sure everybody here is aware, listening to the -- to the secretary's -- of Defense's comments here and just understanding the nation's larger economic situation, is, nobody is coming around and offering up great gobs of new money to either Department of Navy or the Department of Defense. And that's okay. So we're going to have to fold these challenges into a tight fiscal budget. And that's why these studies, which come up with what are the required capabilities -- very, very important. Because one thing I do not want to do is spend a lot of money and then find out we didn't spend it for the right thing. And the other part that we want to do is we want to basically pace the threat, if you will. We don't want to get ourselves like in a tail chase with climate change or with changes in the Arctic, but at the same time, our

Navy has many, many requirements, and we do not want to spend what I would call "ahead of need" or starting to spend for things that may not be required for years or even decades later.

MR. OHAB: Thank you. Before we go to the next question, I believe we had another blogger call in. Could you please give me your name?

- Q Yes. This is Sharon Weinberger with AOL News.
- $\mbox{MR. OHAB:}\mbox{ Hi, Sharon.}\mbox{ The next question is for Sandra Irwin (sp).}$
- Q Thank you. Good morning, Admiral -- good afternoon, I'm so sorry. I wanted to ask you about this issue of the rising sea levels. Do you have an estimate of what is the timeline for the potential threats to arise? I mean, are we talking years, decades? And also, can you talk specifically about some of the upgrades in the infrastructure that you would want to have done?

ADM. TITLEY: Okay. Thanks very much for that question. The rise in sea level is really on the cutting edge of science. I'm sure most of you or many of you have read the -- you know, the current issue of the Intergovernmental Panel on Climate Change, or commonly referred to as the IPCC report. In that report, the U.N. was talking about sea-level rise in the 21st century on the order of about 70 meters -- or I'm sorry, 70 centimeters. Seventy meters would really get everybody's attention. But 70 centimeters, and that's very roughly two to two-and-a-half feet, something like that.

What that report did not take into account -- and the report knows it; if anybody actually reads the footnotes, this is in the report, in the fine print, if you will -- that the dynamics of how ice sheets as they warm up actually flow into the ocean are just not well understood, and were certainly not well understood when the IPCC wrote that report.

So the reason I'm going through this is there is simply a lot of scientific uncertainty in the exact -- in the exact timing.

I can tell you what observations, though, have shown in the recent years. And the observations have shown us in the 20th century, in the 1900s, sea level rose by about an average of two millimeters a year, so that over the century we got about roughly 20 centimeters or, again, very roughly eight inches, give or take, of sea-level rise in the 20th century.

The data from the 21st century is already showing that sea level is rising on the order of somewhere between three and three-and-a-half millimeters per year. Now, two millimeters, three millimeters, I mean, this doesn't sound like a lot, but if you think about it, the sea-level rise we've seen in the first 10 years of our new century is already 50 percent greater than the average sea-level rise in the 20th century.

We believe this is not only because as the oceans get warmer they take up more space -- the fancy term for that is thermal expansion -- but also, as the -- as the ice from glaciers on land and the Greenland ice field and even the -- western Antarctica starts flowing into the ocean, that is -- that is ice that was on the water -- was on the land, excuse me; was on the land and is now adding volume, if you will, to the -- to the sea level.

So lots of -- it's frankly, from a -- from a science side, it's actually pretty exciting understanding this intersection of weather and oceanography and glaciology. But it's very, very important for us as operators in the Navy to understand there's very, very wide-ranging estimates right now from the leading scientists on this.

But numbers that I have heard are as high as 1 (meter) to 2 meters -- 1 (meter) to 2 meters -- of sea-level rise in the 21st century.

If that's true -- and again, there is -- this is -- this is cutting- edge science and it -- much work needs to be done to confirm this.

But if that's true, those are sea-level rises that are somewhere between five and 10 times the rate that we saw in the 20th century.

So how probable is this? I'm not even sure right now, but I -- but I am sure that there are very significant consequences.

So it's something that we need to study. We need to stay in touch with the scientists. And we need to make sure that as the time goes on, that we really understand it, we have a plan and we would understand what it would cost us to execute that plan. And that's really one of the foundational elements that our Task Force on Climate Change is going to pursue.

Q And what about the specific infrastructure upgrades that you would recommend?

ADM. TITLEY: The specific infrastructure upgrades -- again, this will be looked at through the capabilities-based assessment. But what I would imagine will be looked at is -- I am almost positive that, as we look through our different bases and different installations, we will find that there is no one single solution. In some places, (armoring ?) may be appropriate; in other places, increase in wetlands may be appropriate.

We want to work with both the scientists and the engineers, taking into account the specifics of every critical location; and also, frankly, ultimately, with the communities, to best understand what types of solutions will work best for each area.

And that's, again, what our capabilities-based assessment is going to be tasked to figure out for us.

MR. OHAB: Thank you, sir.

Q Thank you.

MR. OHAB: I'll pass the next question along to Katie Drummond.

Q Great. Thank you. I had a question about these sort of cooperative partnerships in an international context, whether there's been any progress, I guess, or whether you have any comments on sort of how that's going to work in the next few years as far as -- the Arctic road maps sort of laid out some vague ideas about that, but nothing specific.

I was wondering if you had anything else to say about that.

ADM. TITLEY: Okay, Katie, thanks. Sure. Let me just give you a few examples or specifics, I hope, that have recently come up. One example is the Canadians last year conducted what they call Exercise Nanook, which is off of Baffin Island, and last year they invited the United States Navy to send up some observers, and we did. And that was very good. This year, we are significantly increasing the depth of that cooperation. We have the USS Porter, an Arleigh Burke class destroyer, one of our P-3 maritime patrol reconnaissance aircraft and actually some very specialized ice diving units are going to participate in the exercise, again, at the request of the Canadian navy.

So this will be a tremendous opportunity for -- you know, last year it was a half dozen of our sailors. You know, this year now several hundred of our sailors and officers are going to be able to experience actually operating their ships and their aircraft well north of the Arctic Circle.

So that's one example.

Let me give you another example. I had the privilege about a month ago of briefing the Danish chief of defense, a gentleman named General Bartels. And he -- after we talked, he has basically asked his navy, the Danish navy, to cooperate with the United States Navy on any lesson that the Danes have regarding working in Arctic conditions. And as I'm sure everybody on this telephone conference knows, Denmark -- Greenland is a territory of Denmark. So while Denmark itself isn't all that far north, the Danish navy has responsibility for Greenland. So they have a fair amount of experience up there.

Those are just a couple of examples. The Navy Research Lab is actually working with the Russian Navy in the Kara Sea this summer. And we're also in discussions through the International Hydrographic Office through the regional hydrographic offices on how to best work with our partners there.

So those are, again, not by any means meant to be all inclusive, but just some examples really within the last, say, couple of months or so of things that we're looking for opportunities to work with our international partners.

- 0 MR. OHAB: All right. The next question is for John McCandless.
- Q Good afternoon, Admiral. I write for the Navy Memorial blog. Certainly evaluating actual climate changes is very challenging in both the Arctic road map and the climate change road map. You talk about the need for the next generation climatic prediction capability and providing input to that.

What parameters are we talking about? And what type of capabilities do we need to develop?

ADM. TITLEY: Okay. Thanks very much for that question. And I will try to keep this short because, as some of my staff knows, I can go on at length about this.

What we really think that we need to do for decision makers is we are -- we in the Navy, and just kind of if you step back, I think, in the civilian community as well, see that decision makers really need a weather and ocean forecast information on a variety of time scales, all the way from what is the ocean and what is the weather doing this afternoon, today, tonight, tomorrow. And if anybody ever questions, you know, why do we need that information for the ocean, I would submit that just take a look at the tragedy going down on the Gulf of Mexico right now. Understanding short-term and medium-term and long- term ocean currents and waves is absolutely critical to understanding where all that oil is so that assets can be best placed to mitigate the disaster down there. So there's just one example.

On the weather side, take the Arctic, for example. If I know that the ice is going to be particularly thin, or non-existent, even, in a portion of the Arctic, then I know that I can safely operate vessels that are not ice-hardened. But if I knew, let's say -- if I knew now that next year the ice would be, say, thicker than usual or more extensive than usual in a part of the Arctic, well, I probably would not schedule or intentionally schedule exercises in that part. I would either move them or postpone them, and I could use those scarce assets. And right now the Navy has 287 ships. I could use those scarce and valuable assets in another component.

So lots of needs really extending across the time. When I start getting out into multiple decades, we talked about the sea level rise, it's very important for infrastructure. Our ships tend to last about 30 years. Our careers are about 30 years. So we kind of want to understand what the climate is going to be out certainly at those 30, 40-year points.

So how to do this -- and really, I believe that the time is ripe and the leadership that this administration has in place in many agencies is right to work this as a national effort. In years past, certainly on the operational models, agencies have normally tended to fund to the best level they could their own prediction systems, be it weather or ocean.

I've been working with Dr. Jane Lubchenco in NOAA, Dr. Steve Koonin, undersecretary of Energy for Science in the Department of Energy, as well as colleagues in NASA, National Science Foundation, NCAR, which is the National Centers for Atmospheric Research, and some other agencies as to how can we -- rather than put the best minds in any single agency on this problem, how do we put the best minds in the nation onto this problem? And then we would have the -- basically the same type models run that would support both the civilian and the military purposes.

Now, the details of how we would run those still need to be worked out. We need to certainly understand the occasional requirements for classification and security, and obviously we're not going to jeopardize national security in any ways.

But I believe that the time is ripe to use the changes in the climate as an opportunity to -- what I would say -- get this right, and make sure that for our taxpayer money that we put into these predictions, we get the absolute best return on our collective investment. I think that's really -- we owe that to the American people.

MR. OHAB: Thank you, sir.

Sharon Weinberger, you're up. Sharon, are you there? Do you have a question? All right. We'll go back to Tom Goering.

Q Thank you, sir. One question, more immediate. Climate change is being attributed to increasing the number of hurricanes we're going to be seeing from here on out, I guess. And my question is -- like -- Mayport as a base, is it prepared for a category five hurricane? Are we even looking at any Katrina examples and seeing if we're maybe -- and strengthen our bases to be able to withstand something like that? Over.

ADM. TITLEY: Okay, Tom. Thanks for the question there. I believe the number of hurricanes is still relatively controversial as to whether or not climate change will increase them. And, again, I will try not to techno-geek everybody out here. But it turns out that in addition to warm waters -- and we all know that we need warm ocean waters for forming hurricanes -- you require favorable atmospheric conditions for some time to have a hurricane form.

And I'll just give you some examples, is in the Bay of Bengal and in the Arabian Sea, out by either coast of India, in the summertime the waters are very, very warm, every bit as warm as they are in the Atlantic or Pacific.

But the reason you do not see big tropical or any tropical cyclones out there at that time is because of the winds. Sometimes like if you listen to the Weather Channel you'll here people talking about shear, which is just basically different winds blowing at different directions and that tends to tear hurricanes and typhoons and tropical cyclones apart.

So there's a lot of debate and a lot of good research going on right now within the weather community, the international weather

community, to try to understand if there will be more hurricanes or not. What I can tell you, though, is I have heard of no credible person who thinks it will be fewer hurricanes. Really, the debate is do the numbers stay what they are now or do they increase.

The science as of a few months ago, as of the latest literature, seems to be indicating that the numbers may stay about the same. But of the hurricanes and tropical cyclones that form, they may become more intense, and I think this leads to the second part of your question, are we prepared.

What I can tell you is that our regional commanders, led by Admiral Mark (sic) Vitale, the commander of the Naval Installations Command, makes sure that his bases are prepared for severe hurricanes every year, because by the time you figure out that it's going to be a really bad hurricane, you know, you probably only have two, three, four, five days of warning, if you haven't really thought through the preparations beforehand, it's too late. So every year we have to, you know, frankly, plan for the worst and hope for the best on the hurricane season.

Mayport is -- since you brought that up, is kind of an interesting situation. It's -- if you look at a map, it's sort of in this concave area of the coast.

And when you run very long-term simulations out, you see that Mayport -- sort of Mayport, Savannah, Kings Bay area actually has a relative minimum or a relative low number of hurricanes that strike them. Mayport gets a fair number of storms that come in from the Gulf and then go across Florida. But of course by the time they've gone across Florida, they've lost a fair amount of their punch.

So Mayport is kind of an interesting place in that it has fewer hurricanes than you would expect, but the more general part is our regional base commanders and our installations commands need to and do prepare for severe hurricanes really at any time because we just don't know in any given year when that's going to happen. But when it does, we have to be ready.

MR. OHAB: Beth Wilson, do you have a question this time around? All right. Then we will go to Dale Kissinger.

Q Yes, sir. This is Dale. I have a question about -- what would you name the -- as a success for the Navy as far as this assessment and what you're looking at? And when you do your road map for the Arctic, what are the goals that you have? And how would you measure them?

ADM. TITLEY: Okay, Dale. Thanks very much for the question.

I think our goals are that the Navy is ready, that the Navy is not taken by strategic surprise. And I would say the way that we measure that is that in the program development of fiscal year '14 budget, that we at the highest levels of Navy leadership have a very conscious

decision, or conscious discussion, if you will, as to what the right level of investment is. And it's, of course, way too soon for me to say what that investment will be. But what I do not want is I do not want the Navy to be taken by strategic surprise, by the -- by this changing in geography.

Some of the near-term successes -- I think I already talked about some of the -- some of the international works that I'm not sure would have happened without Task Force Climate Change, so I would consider that a success. I know that we have deepened our strategic relationship with the United States Coast Guard. We've worked with the commander of the 17th Coast Guard District, Admiral Chris Colvin, and we are looking at folding in the Coast Guard into the Navy's (ISECs ?) of 2011. I think that's a success. Recently -- and by "recently," within the last four weeks -- the chief of naval operations signed out the U.S. Navy's Arctic strategic objectives.

So this really as a Navy gives everybody in the Navy kind of a common frame of reference to understand for -- what is it that we're trying to achieve -- and I'll just very, very briefly summarize it -- is the U.S. Navy is looking for a safe, stable and secure Arctic.

So those are just some of the events that I would have. We've participated in some war games and are able to basically influence the way that the Department of Defense is looking at the Arctic. One of the things I tell everybody is, one of the things the Arctic is an ocean. And maybe that's obvious to people, but I find not always. And since it's an ocean, we believe that it's -- we believe it's proper and right for the United States Navy to be taking a very, very active interest in that area.

 $\,$  MR. OHAB: Thank you, sir. Q  $\,$  Thank you very much, sir. That was great.

MR. OHAB: And the next question is for Sandra Erwin.

Q Thank you very much. Admiral, I wondered if you can talk about what other countries are doing in this area. Or potentially is there going to be -- is the U.S. going to take the lead in trying to protect naval facilities from these threats? Or are you aware of other projects, other initiatives by other countries that the U.S. can benefit from?

ADM. TITLEY: Okay. Thank you, Sandra.

We are looking at working with other countries. I mean, in the Arctic I think I mentioned how we're working with our Canadian partners, with our Danish and Norwegian partners. And even on the research side, we continue to work actually with our Russian partners.

I think just about everybody knows, again, if you look at a map of the Arctic, Russia owns about 50 percent of the coastline in the Arctic. Russia is a major -- major player in the Arctic and -- you know, and we need to work with them. Russia has also put out strategic

objectives, and one of their objectives is also for a safe and stable Arctic.

So I believe we have common ground with which to -- with which to work with the Russians.

On climate change, on sort of a broader scale, we have had a wonderful relationship with the United Kingdom. The U.K. has designated a two-star Royal Navy admiral, a gentleman named Admiral Neil Morisetti, as their climate envoy. It's a great title. And he works not only out of the Ministry of Defence, but also out of the U.K.'s Foreign Office.

And he and I have talked at numerous forums together, as well as in conversations, and really to understand where Great Britain and the United States have overlapping interests in how we can -- how we can work in common.

The Indian navy has approached us on some climate and Antarctic research. And we're just starting those discussions. And Denmark -- I mentioned our conversation with their chief of defense -- they are actually starting work on sea-level rise adaptation. So we're working with them.

We have an invitation to visit in the Netherlands the port of Rotterdam. Rotterdam has probably done some of the most sophisticated adaptation to potential rise in sea level that I've seen. And of course, everybody knows that the Dutch have for years worked to reclaim land that was under the North Sea. So they're very -- you know, very familiar with working in those kinds of conditions. And, again, they have invited us to the port of Rotterdam to see what they have done.

So those are, again, just some examples of how we're working with people. But I would say this is really a partnership. I think there is a real opportunity, too, that this climate change can almost be viewed as a common enemy, if you will, and that can lead to partnerships where people may not have been talking as much before.

MR. OHAB: Thank you, sir.

Q Thank you.

MR. OHAB: Try to get in two more questions before we wrap up today's Bloggers Roundtable. The first is to Katie Drummond.

All right. Then we'll go with John McCandless.

Q Admiral, this might be related to the last question. But in the Arctic road map, you talk about continued partnership-building, but also the conduct of a limited objective experiment. And I'm not sure I understand what that is.

ADM. TITLEY: Okay. Sure. Pardon me there.

Yeah. Our limited objective experiment -- if I get my acronyms correct right -- is really a -- you could think of it is as a thinking exercise. It's not involving actual real forces, but it's really gathering subject matter experts from different parts of the Department of Defense and the United States Coast Guard and really through the interagency process -- again, just sort of a bureaucratic way of saying other components of the executive branch. So like Department of Homeland Security as an example would play in this.

And we would for about two days just kind of go through what-if kind of questions. So we would set up scenarios and we would just try to think them through. And we would try to think them through to see, okay, which ones can we do with the forces and the capabilities that we in the United States government have today; where do we have shortfalls. And what can be sometimes very illuminating is since nobody -- you know, especially myself, but nobody knows what the future -- what the exact future will entail. But if you run a range of scenarios and if you start seeing that there are common capabilities and capacity that you would need to answer those range of scenarios, that can really start helping inform a future budget debate.

So these limited-objective experiments -- and I apologize for the name there -- but what they really are is these so-called tabletop type exercises where we can try to think through, get a bunch of smart people in a room from a bunch of different agencies in the Department of Defense, and really think through different scenarios.

MR. OHAB: Well, thank you all. We've had some really great questions and comments today. It's been a very interesting discussion.

As we wrap up today's call, I'd like to ask Rear Admiral Titley if he has any final comments.

ADM. TITLEY: Let me just -- and I'll just tell you kind of how I think of the Arctic. The Arctic we see is really the nearest-term issue that we are going to have to deal with in climate change. And that's why when Admiral Roughead stood up Task Force Climate Change, he asked us to focus on the Arctic first. It's why the Arctic road map came out before the climate change road map. But I kind of think of the Arctic as two things it is and one thing it isn't. And I think of the Arctic right now as a strategic challenge, and if we do not address it and take it seriously, it will become a crisis. And we do not need another crisis in our world right now.

The Arctic, as I mentioned earlier, is an ocean. And as an ocean, we understand -- the United States Navy works on every ocean in the world. We can provide maritime security. We see shipping in 30 or 40 years will significantly increase through the Arctic. And one of the core functions of a navy is to guarantee that shipping and that free flow of trade. I think everybody here knows that 90 percent of the world's trade flows on the ocean, and the Arctic may sooner than we think be part of that.

And third, what I would say about the Arctic is it is not a vacuum. I see that both as a Naval officer and as a scientist. As a scientist, we see that the heat and the ocean and the weather in the Arctic affects what we have even down here in the middle latitudes and vice versa. But also from a military and a geopolitical standpoint what happens between the nations of the world will impact the Arctic and vice versa.

So it's -- while sometimes people want to put the Arctic sort of in its own separate box, I think it's important to remember that it is, in fact, not a vacuum.

MR. OHAB: Our guest today is United States Navy Rear Admiral Dave Titley, oceanographer of the Navy and director of the Navy's Task Force Climate Change. Really do appreciate your time today, sir.

ADM. TITLEY: Thank you all. And thanks very much, John, for hosting this.

MR. OHAB: My pleasure. Today's program will be available online at the Bloggers Roundtable link on dodlive.mil where you'll be able to access the story based on today's call along with source documents such as biographies, this audio file and print transcripts.

Again, thank you, sir, and our bloggers and online journalists who participated today. This concludes today's event. Feel free to disconnect at this time.

ADM. TITLEY: Great. Thank you very much.

MR. OHAB: Okay. Thanks, everybody.

END.